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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,989	03/22/2004	Takahiro Tokunaga	4041K-000192	1370

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EXAMINER

FORD, JOHN K

ART UNIT	PAPER NUMBER
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3744

MAIL DATE	DELIVERY MODE
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10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/805,989	Applicant(s) TOKUNAGA ET AL.	
	Examiner John K. Ford	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/8/07
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6, 8 and 10-15 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4, 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 3, 5, 6, 8 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicant's response of August 8, 2007 has been given careful consideration. In an attempt to overcome the outstanding rejections, applicant has added a functional description to claim 1 of an intended manner of operating the device to keep one of the passage opening areas constant. It is submitted that in an apparatus claim such limitations (without the inclusion of means plus function language) are not extended patentable weight in a claim drawn to the apparatus. See MPEP 2114, incorporated here by reference. Such a limitation would probably make more sense in claim 2 as part of a means plus function recitation with respect to an explicitly claimed control means.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, it states that the right-side and left-side airflow rates are each independently controlled. This does not appear to be the case based on the narrowing amendment made to claim 1. See page 38, lines 19-29. With respect to the first embodiment, when one of the airflow rates is changed the other is also changed (the change in the air flow rate in the other passage is kept small). Therefore the airflow rates are not truly independent as claimed in claim 8. Therefore claim 8 appears to be

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mis-descriptive. Alternatively, if claim 8 is descriptive it is unclear how large a change in the airflow in the other passage will satisfy the limitation that the two airflows are independent.

Claim 1, 2, 6, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as obvious over the combined teachings of the un-illustrated two-zone embodiment described in col. 2, lines 8-13 of Heinle et al (USP 5,086,830) and Uemura et al (USP 6,293,339).

Heinle in the un-illustrated two-zone embodiment described in col. 2, lines 8-13 of Heinle et al (USP 5,086,830) discloses a total of four flaps. Two of these four flaps (i.e. flap 24 and flap 25) are shown in Figure 1. One of ordinary skill would understand from the description of un-illustrated two-zone embodiment described in col. 2, lines 8-13 of Heinle et al (USP 5,086,830) that a central partition (such as shown in Denso owned Uemura '339, Figure 2, vertical partition 41, described in col. 5, line 49 - col. 6, line 4, incorporated here by reference) divides the casing of Heinle in half (as described in the incorporated section of the Uemura reference) with the other two of these four flaps (i.e. flap 24' and flap 25', for purposes of future reference) would be in Figure 1 behind corresponding flaps 24 and 25 with the vertical partition (described in Uemura) located between flaps 24 and 24' & flaps 25 and 25' and dividing the casing of Heinle in half to the various downstream discharges. Separate jets 21 and 21' (to continue with the above nomenclature) would discharge air to the right and left zones (i.e. the driver and passenger sides) of the main compartment. In other words, everything shown in

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Figure 1 of Heinle, downstream of the evaporator 11 of Heinle, would be duplicated on the other side of the vertical partition described above. If for some reason applicants do not understand the vertical partition explanation, which should be pretty familiar to engineers at Denso given the number of patents (including Uemura) that are of Denso origin that disclose these partitions, please call the examiner with any questions.

Finally, Heinle clearly teaches how to control doors 24 and 25 to both control volume flow and temperature in a single zone simultaneously. Since Heinle already contemplates a dual zone system in col. 2, lines 8-13, to have extended the algorithm disclosed in Heinle for controlling flaps 24 and 25 to control all four flaps 24 and 24' & flaps 25 and 25' in a two zone embodiment would have been obvious to one of ordinary skill in the art since it is explicitly contemplated in Heinle. Two zone systems advantageously allow the driver and passenger to set their individual preferences as to air volume and temperature thereby increasing occupant comfort.

Regarding claim 2, continuing with the above explanation, to have duplicated temperature control 29 and volume control 30 for the other zone as temperature control 29' and volume control 30' would have been obvious in a two zone embodiment explicitly contemplated in Heinle. Two zone systems advantageously allow the driver and passenger to set their individual preferences as to air volume and temperature thereby increasing occupant comfort.

Regarding claims 12 and 13, one can draw a plane intersecting the axis of the doors 24 and 25. In that plane the two doors can be positioned to be co-planar.

Claims 5, 11, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Schwarz (USP 6,278,083).

In col. 4, lines 34-36 Schwarz teaches the art recognized equivalence of flaps such as shown in Heinle and film doors. To have substituted film doors for each of the four flaps 24 and 24' & flaps 25 and 25' in a two zone embodiment of Heinle (described above) would have been obvious to one of ordinary skill in the art. Despite their complexity, film doors are known to have at least one advantage over flap doors and that is they generally take up less space inside the HVAC casing and therefore permit an advantageous overall size reduction of the HVAC.

Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art as applied to claim 1 above, and further in view of Vincent (USP 6,668,909).

To have moved the hot air door 25 of Heinle to the upstream side of his heater core 12 would have been obvious to one of ordinary skill in the art in view of the teaching of Vincent, Figure 1, hot air door 38 in front of heater core 24, to advantageously allow for the insertion of a mixing means (also shown in Vincent)

downstream of the heater core. Vincent fairly teaches placing the cold and hot air doors in a co-planar arrangement along a substantially vertical axis, an obvious modification to advantageously minimize the distance between the evaporator and heater core.

Regarding claim 15, each of the doors 37 and 38 in Vincent move toward each other when they are closing their respective passages.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

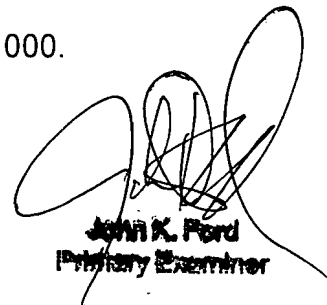
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



John K. Ford
Primary Examiner